

Bellwork: 9/18/12

$$\textcircled{1} \frac{V = lwh}{lw \quad lw}$$

$$\frac{V}{lw} = h$$

$$\textcircled{2} \left(\frac{3a^2b^2c^{-3}}{-5a^{-2}b^{-3}c^4} \right)^{-2}$$

$$(3)^{-2} a^{-4} b^{-4} c^6$$

$$(-5)^{-2} a^4 b^6 c^{-8}$$

$$25 c^6 c^8$$

$$9 a^4 a^4 b^6 b^4$$

$$\frac{25c^{14}}{9a^8b^{10}}$$

$$1. \frac{a^{20}b^7c^9}{a^{18}b^1c^{13}} = \frac{a^2b^6}{c^4}$$

$$2. (d^{-3}f^9g^{14})^{-4}$$

$$d^{12} f^{-36} g^{-56}$$

$$\begin{array}{r} d^{12} \\ \hline f^{36} g^{56} \end{array}$$

$$3. (n^4 m^9 p^{-7})^2 (n^{-1} m^7 p^{-8})^{-3}$$

$$\cancel{n^8} \cancel{m^{18}} p^{-14} \quad \cancel{n^3} \cancel{m^{21}} p^{24}$$

$$\frac{n^{11} p^{10}}{m^3}$$

$$\begin{aligned}
 4. \quad & \left[\frac{(d^2 f^2 g^{-5})}{(d^6 f^8 g)} \right]^{-4} \left[\left(\frac{d^2}{g^9} \right) \right]^3 \\
 & \left(\frac{d^{-8} f^{-8} g^{20}}{d^{-24} f^{-32} g^{-4}} \right) \left(\frac{d^6}{g^{27}} \right) = \\
 & \frac{\cancel{d^{24}} \cancel{f^{32}} g^{20} g^4 \cancel{d^6}}{\cancel{d^8} \cancel{f^8} g^{27}} = \boxed{\frac{d^{22} f^{24}}{g^3}}
 \end{aligned}$$

$$6. \left[\frac{(a^3 b^3 c^{-6})}{(a^8 b^6 c)} \right]^{-2} \left[\left(\frac{a^3}{c^6} \right) \right]^2$$

$$\left(\frac{a^{-6} b^{-6} c^{12}}{a^{-16} b^{-12} c^{-2}} \right) \left(\frac{a^6}{c^{12}} \right)$$

$$\frac{\cancel{a^{16}} \cancel{b^{12}} \cancel{c^{12}} c^2}{\cancel{a^6} \cancel{b^6}} \cdot \frac{\cancel{a^6}}{\cancel{c^{12}}}$$

$$\textcircled{a^{16} b^6 c^2}$$

$$24) \left(\frac{s^{-3}}{4t} \right)^{-3} \left(\frac{5t}{s^{-7}} \right)^{-2}$$

$$\frac{s^9}{4^{-3}t^{-3}} \cdot \frac{(5)^{-2}t^{-2}}{s^{14}}$$

$$\frac{64s^9t^3}{25t^2s^{14}} = \frac{64t}{25s^5}$$

$$22) \left[\frac{2x^{-3}}{(2x)^3} \right]^{-1} = \frac{2^{-1}x^3}{(8x^3)^{-1}} = \frac{2^{-1}x^3}{8^{-1}x^{-3}} =$$

$$\frac{8x^3x^3}{2} = 4x^6$$

$$25) \left[\left(\frac{x^5 y^2}{x^{-3} y} \right)^{-2} \left(\frac{y^{-3}}{2x^5} \right) \right]^{-1} = \left[\left(\frac{x^{-10} y^{-4}}{x^6 y^{-2}} \right) \left(\frac{y^{-3}}{2x^5} \right) \right]^{-1}$$

$$\frac{x^{10} y^4}{x^{-6} y^2} \cdot \frac{y^3}{2^{-1} x^{-5}} = 2x^{16} y^2 y^3 x^5$$

$$\boxed{2x^{21} y^5}$$

Homework: 9/18/12

Complete:
exponent &
word problem
handout